

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

None of the claims have been amended or cancelled. The following is a listing of all pending claims and their current status for the convenience of the Examiner.

1. (PREVIOUSLY PRESENTED) A recording medium including data reproduced by a recording and/or reproducing apparatus, the data comprising:
predetermined recording units, each recording unit having audio data, and
data packs designated to store additional data related to the audio data, each of the data packs being recorded in predetermined locations in corresponding ones of the recording units of the audio data, the predetermined locations being a same position in each of the recording units relative to a beginning of the recording unit, wherein at least one of the data packs does not include the additional data.
2. (ORIGINAL) The recording medium of claim 1, wherein each recording unit has at least one audio pack in which the audio data is recorded, and the additional data is recorded separately from the related at least one audio pack.
3. (PREVIOUSLY PRESENTED) The recording medium of claim 2, wherein, one of the recording units does not have additional data to be reproduced with the audio data of the one recording unit.
4. (PREVIOUSLY PRESENTED) The recording medium of claim 2, wherein the data packs comprise real-time information packs to be real-time reproduced by the apparatus by being synchronized to the related audio data included in the corresponding audio packs.
5. (ORIGINAL) The recording medium of claim 4, wherein the additional data

comprises text data, and the real-time information form corresponding real-time text information (RTI) packs each having the text data and synchronization information of the text data corresponding to the related audio data included in the same recording unit.

6. (ORIGINAL) The recording medium of claim 5, wherein the synchronization information comprises reproducing-time information of the text data, and the reproducing-start time of the text data is located in a reproducing duration of the same recording unit.

7. (PREVIOUSLY PRESENTED) The recording medium of claim 1, wherein: the additional data is formed in units of real-time text information (RTI) packs, each recording unit has a plurality of the audio packs, and the predetermined location of one of the RTI packs is at a first position in the recording unit.

8. (PREVIOUSLY PRESENTED) The recording medium of claim 1, wherein: the additional data is formed in units of real-time text information (RTI) packs, each recording unit has a plurality of the audio packs, and the predetermined location of one of the RTI packs is at a second position in the recording unit after one of the audio packs is positioned at a first position in the recording unit.

9. (WITHDRAWN) A recording method of recording audio data and additional data related to the audio data, the recording method comprising:
recording the audio data in predetermined recording units; and
recording the additional data in a predetermined location in corresponding ones of the recording units,
wherein:
the additional data is formed in units of real-time text information (RTI) packs,
each recording unit has a plurality of the audio packs, and
in each of the recording units, the predetermined location of a first one of the RTI packs is at or before a second position in the recording unit after one of the audio packs positioned at a first position in the recording unit.

10. (WITHDRAWN) The method of claim 9, wherein each recording unit includes at least one audio pack in which the audio data is recorded, and the additional data is

recorded separately from the related at least one audio pack.

11. (WITHDRAWN) The method of claim 10, wherein, one of the recording units does not have additional data to be reproduced with the audio data of the one recording unit, and the real-time text information (RTI) pack of the one recording unit is recorded without data in the predetermined location of the one recording unit.

12. (WITHDRAWN) The method of claim 11, wherein the additional data is recorded in real-time information packs which is to be real-time reproduced by being synchronized to the related audio data included in the corresponding audio packs.

13. (WITHDRAWN) The method of claim 12, wherein the additional data comprises text data, and the real-time information packs are real-time text information (RTI) packs each having the text data and synchronization information of the text data corresponding to the related audio data included in the same recording unit.

14. (WITHDRAWN) The recording medium of claim 9, wherein the predetermined location of the one of the RTI packs is positioned at the first position in the recording unit.

15. (WITHDRAWN) The recording medium of claim 9, wherein the additional data is formed in units of real-time text information (RTI) packs, and each recording unit has a plurality of the audio packs and one of the RTI packs positioned at a second position in the recording unit after one of the audio packs positioned at a first position in the recording unit.

16. (PREVIOUSLY PRESENTED) A reproducing method of reproducing data from a recording medium wherein audio data is recorded in predetermined recording units and additional data related to the audio data is recorded in a predetermined location in the corresponding recording units of the audio data, the predetermined location being a position relative to a beginning of the recording unit and is the same in each of the recording units independent of the additional data, the reproducing method comprising:

reading data from the recording medium in units of the recording units; and

reproducing the audio data and the additional data recorded in the read recording units, after relating the additional data to the audio data, the additional data recorded in data packs,

wherein at least one of the data packs does not include the additional data.

17. (ORIGINAL) The method of claim 16, wherein each recording unit has at least one audio pack in which the audio data is recorded, and the additional data is recorded separately from the related at least one audio pack.

18. (PREVIOUSLY PRESENTED) The method of claim 17, wherein:
the additional information is recorded in the data pack disposed at the predetermined location of the corresponding recording unit,
one of the recording units does not have additional data to be reproduced with the audio data of the one recording unit, and
the data pack of the one recording unit is recorded without data in the predetermined location of the one recording unit.

19. (ORIGINAL) The method of claim 18, wherein the additional data is recorded in real-time information packs as real-time information on the recording medium, and the reproducing of the audio data and the additional data comprises real-time reproducing the additional audio data by synchronizing the additional data to the related audio data included in the same recording unit.

20. (ORIGINAL) The method of claim 19, wherein the additional data comprises text data, and the real-time information pack are real-time text information (RTI) packs each having the text data and synchronization information of the text data corresponding to the related audio data included in the same recording unit.

21. (ORIGINAL) The method of claim 19, wherein the synchronization information comprises reproducing-time information of the text data, and the reproducing-start time of the text data is located in a reproducing duration of the recording unit.

22. (ORIGINAL) The method of claim 16, wherein the additional data is formed in units of real-time text information (RTI) packs, and each recording unit has a plurality of the audio packs and one of the RTI packs positioned at a first position in the recording unit.

23. (ORIGINAL) The method of claim 16, wherein the additional data is formed in

units of real-time text information (RTI) packs, and each recording unit has a plurality of the audio packs and one of the RTI packs positioned at a second position in the recording unit after one of the audio packs positioned at a first position in the recording unit.

24. (WITHDRAWN) A recording apparatus comprising:
an audio signal processor encoding input audio data to generate at least one audio pack, and combining the at least one audio pack to generate an audio object unit (AOBU) that is a predetermined recording unit;
a real-time text information (RTI) signal processor encoding additional data related to the audio data to generate an RTI pack;
a multiplexor generating a new AOBU having the additional data by including the RTI pack provided from the RTI signal processor in a predetermined position in the AOBU provided from the audio signal processor, the predetermined position being a position relative to a beginning of the new AOBU that is a same position in each of the AOBUs and is independent of whether the AOBU including the RTI pack also includes the additional data; and
a recording controller recording the AOBU generated by the multiplexor.

25. (WITHDRAWN) The recording apparatus of claim 24, wherein the multiplexor multiplexes the at least one audio pack and the RTI pack so that the additional data recorded in the RTI pack is reproducible in relation to the audio data included in the new AOBU.

26. (WITHDRAWN) The recording apparatus of claim 25, wherein the RTI pack has text data and synchronization information of the text data corresponding to the audio data included in the new AOBU.

27. (WITHDRAWN) The recording apparatus of claim 26, wherein the synchronization information includes reproducing-time information of the text data, and the reproducing-start time of the text data is located in a reproducing duration of the new AOBU.

28. (WITHDRAWN) The recording apparatus of claim 24, wherein the audio signal processor combines a plurality of the audio packs to generate the AOBU, and the multiplexor inserts the RTI pack at a first position in the AOBU.

29. (WITHDRAWN) The recording apparatus of claim 24, wherein the audio

signal processor combines a plurality of the audio packs to generate the AOBU, and the multiplexor inserts the RTI pack at a second position in the AOBU after one of the audio packs positioned at a first position in the AOBU.

30. (PREVIOUSLY PRESENTED) A reproducing apparatus for reproducing data from a recording medium wherein audio data is recorded in predetermined recording units and additional data related to the audio data is recorded in a predetermined location in the recording unit of the audio data, the predetermined location being a same position in each of the recording units relative to a beginning of the recording unit, the reproducing apparatus comprising:

a reproducing controller reading an audio object unit (AOBU) which is one of the recording units;

a demultiplexor demultiplexing audio packs in which audio data is recorded and RTI packs in which additional data is recorded, from the read AOBU;

an audio signal processor decoding the audio pack demultiplexed by the demultiplexor to output the audio data stored in the audio pack; and

an RTI signal processor decoding the RTI packs demultiplexed by the demultiplexor to output additional data stored in the RTI packs in relation to the audio data from the audio pack, wherein at least one of the RTI packs does not include the additional data.

31. (PREVIOUSLY PRESENTED) The reproducing apparatus of claim 30, wherein the RTI signal processor outputs text data included in the RTI packs after synchronizing the text data to the audio data from the audio pack.

32. (PREVIOUSLY PRESENTED) The reproducing apparatus of claim 30, wherein the demultiplexor demultiplexes a plurality of audio packs from the read AOBU, and the RTI packs at a first position in the read AOBU.

33. (PREVIOUSLY PRESENTED) The reproducing apparatus of claim 30, wherein the demultiplexor demultiplexes a plurality of audio packs from the read AOBU, and the RTI packs at a second position in the read AOBU after one of the audio packs positioned at a first position in the read AOBU.

34. (WITHDRAWN) A recording and/or reproducing apparatus comprising:

an audio signal processor encoding input audio data to generate at least one audio pack and combining the at least one audio pack to generate an audio object unit (AOBU) which is a predetermined recording unit, when data is recorded, and

decoding the at least one audio pack demultiplexed from a new AOBU by a demultiplexor to output the audio data, when the data is reproduced;

a real-time text information (RTI) signal processor encoding additional data related to the audio data to generate an RTI pack which is an additional pack when the data is recorded, and decoding the RTI pack demultiplexed from the new AOBU by the demultiplexor to output the additional data in relation to the audio data when the data is reproduced;

a multiplexor/demultiplexor including the RTI pack provided from the RTI signal processor in a predetermined location in the AOBU provided from the audio signal processor to generate a new AOBU having the additional data, and when the data is reproduced, demultiplexing the at least audio pack in which audio data is recorded and RTI pack in which the additional data is recorded, from the new AOBU; and

a recording/reproducing controller recording the new AOBU generated by the multiplexor on a recording medium, reading the new AOBU, which is a recording unit, from the recording medium, and providing the new AOBU to the multiplexor/demultiplexor,

wherein the predetermined position being a same position in each of the AOBUs relative to a beginning of the AOBU and is independent of whether the AOBU including the RTI pack also includes the additional data.

35. (WITHDRAWN) The recording and/or reproducing apparatus of claim 34, wherein the RTI pack has text data and synchronization information of the text data corresponding to the audio data included in the AOBU.

36. (WITHDRAWN) The recording and/or reproducing apparatus of claim 35, wherein the synchronization information comprises reproducing-time information of the text data, and the reproducing-start time of the text data is located in a reproducing duration of the new AOBU.

37. (WITHDRAWN) The recording and/or reproducing apparatus of claim 34, wherein the audio signal processor generates a plurality of the audio packs to generate the AOBU and the multiplexor/demultiplexor inserts the RTI pack at a first position in the AOBU, when the data is recorded.

38. (WITHDRAWN) The recording and/or reproducing apparatus of claim 34, wherein the audio signal processor generates a plurality of the audio packs to generate the new AOBUs, and the multiplexor/demultiplexor inserts the RTI pack at a second position in the AOBUs after one of the audio packs positioned at a first position in the AOBUs, when the data is recorded.

39. (WITHDRAWN) A recording medium comprising:
 recording units each comprising
 at least one audio pack having audio data, and
 a real-time text information (RTI) pack in a predetermined location within the recording unit;
 wherein:
 at least some of the RTI packs have additional data related to the audio data within the same recording unit, and
 ones of the RTI packs have no information recorded therein.

40. (CANCELED)

41. (WITHDRAWN) The recording medium of claim 39, wherein the RTI packs with the additional data comprise:
 the text data relating to the audio data in the same recording unit; and
 an extra header having synchronization information to synchronize the text data with the audio data in the same recording unit.

42. (WITHDRAWN) The recording medium of claim 41, wherein the recording units are audio object units (AOBUs).

43. (WITHDRAWN) The recording medium of claim 41, wherein:
 the recording units each comprise reproducing-start time information and reproducing-end time information for the AOBUs; and
 the synchronization information comprises reproducing-start time information of the text data.

44. (WITHDRAWN) A recording medium comprising:
recording units in which audio data and additional data relating to the audio data are separately or independently recorded in corresponding data packs at a predetermined position in same ones of the recording units, wherein one of the data packs is in a recording unit not having the additional data and is recorded without data.

45. (WITHDRAWN) The recording medium of claim 44, wherein each recording unit comprises:
at least one audio pack having the audio data; and
an additional data pack having the additional data relating to the audio data in the at least one audio pack.

46. (WITHDRAWN) A method of recording audio data and additional data relating to the audio data, comprising:
separately or independently recording the audio data and the additional data in corresponding data packs at a predetermined position in same ones of predetermined units having the additional data;
separately or independently recording the audio data and corresponding data packs having no data at the predetermined position in same ones of predetermined units not having the additional data; and
recording the predetermined units on a recording medium.

47. (WITHDRAWN) The method of claim 46, wherein the separately or independently recording comprises:
recording at least one audio pack in each of the predetermined units; and
recording a real-time information (RTI) pack in a predetermined location in each one of the predetermined units, wherein at least some of the RTI packs have the additional data relating to the audio data in the same ones of the predetermined units.

48. (PREVIOUSLY PRESENTED) A method of reproducing audio data and additional data relating to the audio data which are recorded separately or independently in same ones of predetermined recording units, the method comprising:
reading the predetermined recording units; and
demultiplexing the predetermined units to separate the audio data from data packs

having the additional data based upon the data packs being in a predetermined location in the corresponding recording unit relative to a beginning of the recording unit, wherein at least one of the data packs does not include the additional data.

49. (ORIGINAL) The method of claim 48, wherein the predetermined recording units each comprise at least one audio pack having the audio data and a real-time information (RTI) pack, wherein at least some of the RTI packs have the additional data relating to the audio data in the same ones of the predetermined units, the demultiplexing comprising:

separating the at least one audio pack for audio processing from the RTI pack for real-time information processing.

50. (WITHDRAWN) A recording apparatus comprising:
an audio signal processor encoding input audio data to generate audio packs, and combining pluralities of the audio packs to generate recording units;
a real-time text information (RTI) processor generating RTI packs, at least one of the RTI packs having additional data relating to the audio data and at least one other of the RTI packs noting having data;
a multiplexor generating each of the predetermined units by combining one of the pluralities of audio packs with one of the RTI packs such that each predetermined unit has a corresponding one of the RTI packs in a same predetermined position relative to a beginning of the unit and at least one audio pack, the predetermined position being independent of whether the RTI pack includes the additional data; and
a recording controller recording the predetermine units on a recording medium.

51. (PREVIOUSLY PRESENTED) A reproducing apparatus for reproducing data from a recording medium, wherein the recording medium has recording units each having audio packs and real-time text information (RTI) packs disposed at predetermined locations in each of the recording units, the reproducing apparatus comprising:

a reproducing controller reading the recording units from the recording medium, and combining pluralities of the audio packs to generate recording units;

a demultiplexor demultiplexing the audio packs from the RTI packs for each recording unit;

an audio signal processor decoding the audio packs demultiplexed by the demultiplexor;
and

an (RTI) processor decoding additional data related to the audio data in the corresponding recording unit and which is in the RTI packs demultiplexed by the demultiplexor, wherein at least one of the RTI packs does not include the additional data